



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

DIPLOMA IN MEDICAL LABORATORY SCIENCES
(DMLS)

AML 2140 : HUMAN ANATOMY & PHYSIOLOGY I

SPECIAL/SUPPLEMENTARY : EXAMINATIONS

SERIES: OCTOBER 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this examination

- *Answer booklet*

This paper consists of **TWO** sections.

Answer all questions in **Section A** and **B**. $\frac{1}{2}$ marks deducted for any wrong answer in **Section A**.

This paper consists of 9 PRINTED pages

SECTION A MCQ (40MARKS)

1. Low blood volume is commonly associated with
 - a) Low blood sugar levels
 - b) High blood sugar levels
 - c) Low sodium levels
 - d) Low potassium levels
 - e) All the above

2. The study of how the human body works & how it maintains its physiological function through organ system is known as
 - a) Histology
 - b) Physiology
 - c) Gross anatomy
 - d) Pathology
 - e) All the above

3. The organelle responsible for forming transport channels for manufactured substances is
 - a) Golgi apparatus
 - b) Endoplasma reticulum
 - c) Centriole
 - d) Lysosome
 - e) Cilia

4. Cell division responsible for formation of germ cells is known as
 - a) Mitosis
 - b) Binary fusion

- c) Budding
 - d) Meiosis
 - e) All the above
5. The most abundant human tissue in the body is
- a) Nerve
 - b) Muscle
 - c) Connective
 - d) Epithelial
 - e) All have same density
6. Which of following constitute the part of the brain stem
- a) Pons
 - b) Hemisphere
 - c) Mid brain
 - d) Hypothalamus
 - e) Cerebrum
7. Which of the following is function of monocytes
- a) Stimulate production of immunoglobulin
 - b) Cause temperature rise in the body tissues
 - c) Engulf micro organisms and foreign particles
 - d) Stimulate RBC breakdown
 - e) None of the above
8. Cerebrospinal fluid is important as a
- a) Lubricant

- b) Shock absorbers
- c) Blood brain barriers
- d) If fight infection
- e) All the above

9. Non-kenatinised epithelium is found on the following places

- a) Anus
- b) Vagina
- c) Skin
- d) Urinary bladen
- e) All the above

10. Most cells are capable of releasing the following intermediances except

- a) Heparin
- b) Prostacylin
- c) Histamine
- d) Serotonin
- e) All the above

11. Cerebraspinal fluid circulates in the following areas

- a) Sub-dunal space
- b) Pleural space
- c) Sub-arachnoid
- d) Choroid plexus
- e) Fourth ventricle

12. Areolar tissue is found in the following areas except

- a) Muscle
- b) Blood vessels
- c) Alimentary canal
- d) Rectum
- e) None of the above

13. Which of the following not cells that form connective tissue?

- a) Fibro blasts
- b) Mast cells
- c) Macrophages
- d) Oligodendrocytes
- e) All the above

14. Hyaline tissue is found on

- a) Surfaces of bones
- b) Nails
- c) Vertebral column
- d) Skin
- e) All the above

15. Deficiency of calcium can be as a result of the following except

- a) Low calcitriol levels
- b) Poor absorption
- c) Absence of Growth hormone

- d) High intake of iron salts
 - e) None of the above
16. The following are the permanent support cells of the CNS except
- a) Microglial
 - b) Oligo denduocytes
 - c) Astrocytes
 - d) Epidymal
 - e) Satellite cells
17. Which of the following is not an example of a bi-polar neuron?
- a) Spinal cord neurons
 - b) Olfactory cells
 - c) Neurons of the retina
 - d) Neutrona of the inner ear
 - e) None of the above
18. Fast anterofrade transport of the Axon moves the following except
- a) Mitochondria
 - b) Ca^{2+} ions
 - c) Synaptic vesicles
 - d) Glucose
 - e) Titanus toxin
19. The following are major functional classes as neurona except

- a) Multipolar
- b) Unipolar
- c) Bipolar
- d) Anaxonic
- e) None of the above

20. Myelin sheath is formed by

- a) Oligo dendrocyte
- b) Glial
- c) Satellite cells
- d) Microglia
- e) All the above

21. Which of the following is a clue to a pathologist for brain injury or trauma in a patient?

- a) Blood clot
- b) Clustering of microglia cells
- c) Inflammation
- d) Brain hemorrhage
- e) All the above

22. Which of the following is responsible for secretion of cerebrospinal fluid?

- a) Myelin sheath
- b) Choroid plexuses
- c) Schwann cells
- d) Nodes of Ranvier
- e) None of the above

23. Vitamin K is important in the synthesis of the following clotting factor.

- a) Factor II
- b) Factor VII
- c) Factors IX
- d) Factor I
- e) All the above

24. The following are important examples of granulocytes except

- a) Monocytes
- b) Neutrophils
- c) Basophils
- d) Eosinophils
- e) None of the above

25. The following are important characteristics of living things except

- a) They reproduce
- b) They move
- c) They carry out excretion
- d) They are affected by cold temperatures
- e) All the above

26. The general organization of the body skeleton is divided into

- a) Head & thorax
- b) Axial & appendicular

- c) Joints and vertebral column
- d) a & b
- e) All the above

27. Thoracic & abdomen pelvic cavity is separated by

- a) Lien lobes
- b) Adipose tissue
- c) Fat cells
- d) Pericardium
- e) Diaphragm

28. Abdominal cavity house the following organs except

- a) Stomach
- b) Liver
- c) Spleen
- d) Large intestine
- e) All the above

29. Which of the following membrane surrounding all organs within the abdomino pelvic cavity?

- a) Pericardium
- b) Pleural
- c) Peritoneum
- d) Serous membrane
- e) All the above

30. Which of the following is not a function of the human skeleton

- a) Protection
- b) Support
- c) Erythropoiesis
- d) Locomotion
- e) Sensation

31. The following best describes the “anatomical position” except

- a) Standing erect
- b) Face forward
- c) Arms at side
- d) Palma facing forward
- e) Face upwards

32. Which of the following best describes a nerve?

- a) An electrical cable conveying signals from brain tissue
- b) Nerve fibers in a connective tissue
- c) Bundle of nerve fibers in a fibrous connective tissue
- d) Both A and B
- e) All the above

33. The TWO main anatomical divisions of the nervous system include

- a) Sympathetic & Parasympathetic
- b) Somatic sensory
- c) Central nervous system & Peripheral nervous system
- d) Brain and spinal cord

e) All the above

34. The nuclei of the medulla oblongata is concerned with the following except

- a) Speech
- b) Respiration
- c) Coughing
- d) Sneezing
- e) Salivation

35. The cerebellum is concerned with the following except

- a) Awareness
- b) Muscular coordination
- c) Judgment
- d) Vision
- e) All the above

36. The following are classification of bones according to shape except

- a) Long
- b) Dense
- c) Irregular
- d) Short
- e) Massive

37. The spleen plays a role in

- a) Erythropoiesis

- b) Breakdown of worn out RBC
- c) Destruction of microbes
- d) Generation of new cells
- e) None of the above

38. Smooth muscle occurs within the following organs except

- a) Blood vessel
- b) Lung
- c) Heart
- d) Vagina
- e) GIT

39. Collection of fluid in the abdominal cavity is termed as

- a) Oedema
- b) Ascites
- c) Jaundice
- d) Both A and B
- e) None of the above

40. Which of following is the most abundant extracellular fluid cation?

- a) Potassium
- b) Calcium
- c) Magnesium
- d) Sodium
- e) None of the above

SECTION B ESSAY (60marks)

1. (a) With the aid of a diagram, draw and name the structure of long bone. **(10marks)**
(b) Describe the functions of the human skeleton **(10marks)**

2. Discuss the events that occur following a blood vessel injury until the vessel integrity is restored. **(20marks)**

3. (a) Discuss how hearing occurs in man **(10marks)**
(b) Explain how balance is achieved by the ear. **(10marks)**